

# Editorial

Chemical research and chemical education are very interesting activities in Brazil, these days. This is due to the current positive situation of Brazilian chemical industry, added to the intrinsic intellectual challenges offered by chemical science. The headlines and reports of the Abiquim (Association of the Brazilian Chemical Industry) webpage show that 2004 total sales reached US\$59,400 M with a two-digit growth over 2003, while chemical exports rose more than 50% in the first two months in 2005 (but chemical trade deficit was US\$1,1 M in the same period). Perspectives are positive through 2006.

At this point in time, prospects for the chemical industry are good in many places of the world and the projections for the Brazilian economy are generally also positive, but the situation of the Brazilian chemical industry is not just a consequence of these two facts.

Looking at data since 1990, it is clear that the shock of the ill-advised “abertura” of the early 90s was overcome by the chemical sector (but we cannot forget the great mistakes and the many casualties of that period). Long-term data show also that the growth of the chemical sector for the past ten years has been consistent and it continued during 1998 and 2002, when other sectors had significant problems.

To sum up, it makes sense to teach chemistry and chemical engineering students: there are jobs and there is even an increasing demand for post-graduates. Brazilian chemical industry is already differentiated from many other sectors because it employs significant numbers of PhDs and this difference seems to be increasing, now. It also makes sense to do chemical research, because industry has been able to innovate creating and improving products and processes that are competitive worldwide. Significant research & development & innovation are being done in Brazil by Brazilian-based as well as foreign companies.

Innovation is now a matter of great debate in Brazil and we witness a tendency to keep repeating negative statements on our innovative capabilities, in a depressive tone. Many statements have been raised to the category of dogmas but they were created by workers in sectors that are big failures in Brazil, especially the semiconductor-microelectronics-information technology area.

We chemists should not keep spreading these statements. We can do much better if we just recall that ***this country is now the only one in the world that produces fuel from renewable resources at prices competitive with oil and without any subsidy***. In 2005, almost every car maker in Brazil is selling the “flex” cars that can be fuelled with ethanol or gasoline. The owner can choose what fuel will be used any time he enters a gas station, but the result is now that every “flex” car owner always chooses ethanol. This is a great innovation, especially in a world where oil prices make the headlines almost every day and oil has been at the origin of recent wars. Moreover, it places Brazil in a distinguished position in the world transition to the post-petroleum era.

This impressive result is not just the result of plentiful sunshine, water and cheap labor or land, because 20 years ago land was much cheaper, water and sunshine were about the same as today and ethanol cost would be competitive but only at a US\$60/oil barrel price. Instead, this is the result of decades of intensive, competent and focused work on every aspect of the sugar-alcohol complex.

Chemistry is a part of this industry, from the fertilizers and agrochemicals used in the fields to the handling of vinasse (“vinhaça” or “vinhoto”, once a problem, now a solution) and to the plants wherefrom sugar and alcohol are shipped in ever-increasing amounts. Chemistry contributes to the productivity gains shown by this industry, every year.

Sugar and ethanol are just a product chain and the whole Brazilian chemical sector offers many reasons for enthusiasm, these days. In the past, many thousands of chemists were successful in working together, planning, implementing, making, inventing, improving and creating wealth. Let’s recall for a moment the meaning of Capuava, Camaçari, Triunfo as well as Jandira, Paulínia, Duque de Caxias, Novo Hamburgo and many other places. Let’s recall Pronaq, Procat and especially PADCT and let’s move facing the new challenges.

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